

## **Determination of Public Land (Rangeland) Health for 62009 LUCIANO MESA**

The Record of Decision (ROD) for the New Mexico Standards for Public Land Health and Guidelines for Livestock Grazing Management (dated January 2001) adopted three Standards for Public Land Health. These are (1) Upland Sites Standard, (2) Biotic Communities, Including Native, Threatened, Endangered, and Special Status Species Standard and (3) Riparian Sites Standard.

The ROD also established a process for the BLM Field Offices for implementation. Through a public participation process, the Roswell Field Office developed and adopted indicators to use in conjunction with existing monitoring data to assess these standards.

Field assessment worksheets and other available data that evaluate the local indicators were completed for this allotment. Based on these assessments, it is my determination that public land within allotment #62009 Luciano Mesa meets the (1) Upland Sites standard and (2) Biotic Communities, including Native, Threatened, Endangered, and Special Status Species standard. There are no public land Riparian areas on this allotment, therefore this standard was not addressed.

/s/ Eddie Bateson  
Field Manager

9/12/2006  
Date

# Standards of Public Land Health

## Evaluation of 62009 LUCIANO MESA Allotment

### [ 05/04/2006 ]

The Roswell Field Office conducted a Rangeland Health Assessment at one (1) study site within Luciano Mesa allotment #62009. This assessment evaluated Soil/Site Stability, Hydrologic Function and Biotic Integrity indicators within the vicinity of each study site. Existing monitoring data was incorporated into and in support of this field assessment. A summary of each assessment is attached and shown in the following table.

Study Area or Assessment Area	UPLAND			BIOTIC			RIPARIAN		
	Meets	Monitor an Indicator	Does Not Meet	Meets	Monitor an Indicator	Does Not Meet	Meets	Monitor an Indicator	Does Not Meet
62009-IDSU-A017 (*)	X			X			N/A		

Twenty-two (22) indicators for Rangeland Health were evaluated for public land on Luciano Mesa, allotment #62009. Ten of these assessed soil site stability, 11 hydrologic function and 13 biotic integrity. These qualitative assessments in conjunction with quantitative information gathered from previous data collected on one location were utilized to assess rangeland health of public land within this allotment. This allotment is a "C" (custodial) category due to small amounts of public land present.

This study area lies within Guadalupe county in an allotment that is split with Quay. All public land within this allotment is in Guadalupe county however. Soil phase is a Regnier-Roc-Latom Outcrop complex with 3 to 25 percent slopes; located 21 mi/33.6 km east of Santa Rosa, NM. This site is just east of Bull Canyon and west of Luciano Mesa. This soil formed in colluvial and alluvial materials derived from redbed shale and sandstone on hill slopes. Elevation ranges from 4,200 ft/1,273 m to 5,300 ft/1,606 m. Total acreage is 1,520 or 615 hectares located in a CP-2 North Breaks ecological site. Livestock were present at evaluation along with mule deer (*Odocoileus hemionus*), lizards (*Sclerophorus* spp.) and hawks (*Buteo* spp.).

Most indicators assessed fell well within normal range of variability. Blue grama (*Bouteloua gracilis*) is the dominant grass comprising the vegetative ground cover along with snakeweed (*Gutierrezia sarothrae*). Other perennial grasses were observed forming a mat of sod to curtail any erosion that could take place due to dry conditions. Juniper (*Juniperus* spp.) infestation is extreme here however. This invasion has inhibited some perennial grass production and reduced total forage biomass including forbs to approximately 350 lbs/ac or kg/ha. This breaks ecological site's description should average 1000 lbs/ac or kg/ha. According to where this site is located however, a more accurate estimate of 400 to 500 lbs/ac or kg/ha is appropriate. Litter amount was down somewhat to an estimate of 5 percent and rates Moderate.

Wildlife - Evaluation of the integrity of biotic community considered several indicators as attribute indices for the area of interest. Biotic indicators are interrelated with several other indicators, including soil/site stability, hydrologic function, and vegetation. Several indicators are singularly biotic and address vegetative aspects of the ecological site description, such as functional/structural groups and plant mortality & decadence. Due to juniper infestation, perennial grass and forb production is down. Potential for reduction in wildlife habitat is higher than normal. However browse such as skunkbush (*Rhus* spp.) exists along the transect lines and throughout this area. Raptors utilize the prey base, ie, small mammals and herps suggesting ample energy flow cycling in out of the system. No Special Status Species Habitat or Populations concerns occur on this allotment.

It is the professional opinion of the Assessment Team, public land within allotment #62009 Luciano Mesa meets Upland and Biotic Standards. There are no Riparian issues present therefore this standard was not addressed. See site notes and recommendations for further information regarding this assessment.

The (\*) indicates that the assessment had one or more indicator(s) rated moderate/extreme or extreme. These indicators are:

- Invasive Plants

These indicators by themselves are not enough to rate the site as not meeting a standard but may warrant future monitoring.

**Recommendations:** A more detailed review is necessary to evaluate the shrub infestation, most notably juniper. Possible vegetation manipulation in the form of grubbing or chemical could open up the canopy and allow perennial forage to establish in those areas. Limited livestock currently utilize this area due to steepness and terrain. Continued conservative use should curtail some shrub encroachment and allow browse components to increase and proliferate. Wildlife currently utilize these components in the form of skunkbush and use those topographical and arboreal features for cover.

Larger tracts of public land at the north end of this allotment must also be evaluated and included in monitoring on a regular basis. These tracts also are indicative of shallow breaks with P/J as a major vegetative community.

RFOs Upland and Biotic Standard Assessment Summary Worksheet			
SITE 62009-IDSU-A017			
Legal Land Desc	NWSW 23 0090N 0260E Meridian 23	Acreage	1520
Ecosite	070BY059NM BREAKS NORTH CP-2	Photo Taken	Y
Watershed	11080006060 UPPER PAJARITO		
Observers	ARTHUN/MCFERRAZ	Observation Date	05/24/2006
County Soil Survey	NM019 GUADALUPE	Soil Var/Taxad	
Soil Map Unit	010	Soil Taxon Name	REGNIER
Texture Class	NM019 L	Soil Phase	REGNIER-ROC- LATOM
Texture Modifier	NM019 LOAM		
Observed Avg Annual Precipitation		Observed Avg Growing Season Precipitation	
NOAA Annual Precipitation	12.31	NOAA Growing Season Precipitation	9.22
NOAA Avg Annual Precipitation	10.69	NOAA Avg Growing Season Precipitation	8.85
Disturbances and Animal Use:	Livestock are present along with mule deer.		

Part 2. Attributes and Indicators						
		Departure from Ecological Site Description/Ecological Reference Areas				
Attribute	Indicators	Extreme	Moderate to Extreme	Moderate	Slight to Moderate	None to Slight
S H	Rills					X
Comments:						
S H	Water Flow Patterns					X
Comments:						
S H	Pedestals and/or Terracettes					X
Comments:						
S H	Bare Ground					X
Comments:	Present estimate is 10-12%.					

S H	Gullies					X
Comments:						
S	Wind-scoured, Blowouts, and/or Deposition Areas					X
Comments:						
H	Litter Movement					X
Comments:						
S H B	Soil Surface Resistance to Erosion				X	
Comments:	cap method					
S H B	Soil Surface Loss or Degradation				X	
Comments:						
H	Plant Community Composition and Distribution Relative to Infiltration and Runoff				X	
Comments:	invasion of juniper					
S H B	Compaction Layer					X
Comments:						
B	Functional/Structural Groups				X	
Comments:						
B	Plant Mortality/Decadence					X
Comments:						
H B	Litter Amount			X		
Comments:						
B	Annual Production			X		
Comments:	350 lbs/ac or kg/ha is the current estimate-					
B	Invasive Plants	X				
Comments:	Juniper encroachment is extreme here.					
B	Reproductive Capability of Perennial Plants					X
Comments:						
S	Physical/Chemical/Biological Crusts				X	
Comments:						
B	Wildlife Habitat				X	
Comments:	Infestation of juniper and cholla with limited forbs reduces habitat.					
B	Wildlife Populations				X	

Comments:						
B	Special Status Species Habitat					X
Comments:	No special status species habitat concerns occur.					
B	Special Status Species Populations					X
Comments:	No special status species populations concerns occur.					

### Part 3. Summary

A. Indicator Summary - Each of the indicators are associated with one or more of the attributes below. An indicator is placed in a category (columns) above and summed for each of the Standard Attributes.

Standard Attribute		Extreme	Moderate to Extreme	Moderate	Slight to Moderate	None to Slight
S	Soil	0	0	0	3	7
H	Hydrologic	0	0	1	3	7
B	Biotic	1	0	2	5	5

B. Attribute Summary. In this table, the Extreme and Extreme to Moderate columns in the table above are merged for the *Does not Meet* column, Moderate becomes *May Need More Info*, and Slight to Moderate and None to Slight merge to form the *Meets* columns. Values from the table are summarized below. Space is provided for rationale of the determination. This space should most certainly be used when the determination by the ID team conflicts with the summarized values. Provide the sources of information that lead to the determination. X out the appropriate box for each attribute to denote final agreed upon determination by the ID team.

Attribute	Rationale	Does Not Meet	May Need More Info	Meets
Soil		0	0	10
Hydrologic		0	1	10
Biotic		1	2	10

Site Notes: Trend plot set with rebar and t-post; double sampling and step-point transects run; livestock present with deer and hawks observed. Juniper encroachment is extreme with some basal cover readings that include this tree.

Blue grama, sideoats and other perennial grasses form a mat only in those areas that do not have juniper canopy cover. Cholla is also a problem here with reduced forb production.





5. 24. 2006



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